

## **Liver Fibrosis and Progression of Liver Disease in Patients with Hepatitis Delta - Results from a Retrospective Study in Romania**

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### **ABSTRACT**

**Introduction:** Due to the relatively low prevalence of hepatitis delta in Europe, Romania is one of the main countries in the region that can provide data on long-term prognosis of patients with this condition.

**Methods:** We performed a retrospective study to assess liver disease progression and to compare non-invasive methods for assessing liver fibrosis in patients with chronic hepatitis B and delta under current active surveillance at the National Institute for Infectious Diseases "Prof. Dr. Matei Bals", Bucharest, Romania.

**Results:** The study group included 64 patients with a median age of 54 (IQR: 38, 59) years, and a male-to-female ratio of 0.7:1, accounting for 183.6 patient-years of follow-up. We identified a biphasic distribution of liver fibrosis in patients with hepatitis D from our cohort, with two peaks, one at mild to moderate fibrosis and the second at moderate to advanced liver fibrosis. We recorded a significant decrease in thrombocyte count from baseline to the third evaluation (mean decrease 17,000/ $\mu$ L,  $p=0.007$ ,  $Z=-2.7$ ), a pattern not seen when analyzing coagulation and liver function. We recorded no significant changes over time in terms of cytolysis, renal function, fasting plasma glucose, or lipid profile. We identified a moderate correlation between FibroTest and FIB-4 values ( $p=0.008$ ,  $rs=0.40$ ), and a weak correlation between FibroTest and APRI values ( $p=0.016$ ,  $rs=0.36$ ). We also identified a moderate correlation between ActiTest and FIB-4 values ( $p=0.006$ ,  $rs=0.45$ ), and for FibroTest and APRI ( $p=0.001$ ,  $rs=0.56$ ).

**Conclusions:** We identified an accelerated decrease in thrombocyte counts in patients with hepatitis delta without advanced liver fibrosis, unparalleled by a decrease in liver function. FIB-4 might offer a more suitable estimate of liver fibrosis than APRI, while both FIB-4 and APRI scores appear to give a fair evaluation of the necroinflammatory activity in patients with hepatitis delta.

**Key words:** Non-invasive fibrosis assessment, liver fibrosis, hepatitis delta, hepatitis D